Medical 3D Printing

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The official link for this solicitation is:
http://www.acq.osd.mil/osbp/sbir/solicitations/sbir20152/index.shtml

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Department of Defense

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Topic Number:
DLA152-002

Description:
DLA seeks to integrate 3D printing into the Medical supply chain. Medical 3D printing is a disruptive, game-changing technology that will significantly alter medical supply chains in the future. Integrating medical 3D printing will transform customer experience because the supplies will be customizable and available on-demand. With medical 3D printing, the DLA Medical Supply Chain can offer new products and services such as human tissue that will meet customer needs, while at the same time reducing inventory and stock levels for items like medication. 3D printing will also be cost-effective because it is often easier and cheaper to store raw material, rather than finished products. There are three key ways DLA Medical Supply Chain can use 3D printing to provide life-saving medical supplies: 1) Print medical equipment 2) Print human tissue 3) Print medicine With medical 3D printing, DLA will shift from forecasting, storing, and supplying items to raw materials and equipment. DLA will likely need to adapt its existing supply chain to handle biomaterial such as cells. Additionally, the DLA will need to identify and assess appropriate suppliers. PHASE I: Determine, insofar as possible, the scientific, technical and commercial feasibility of the idea. Include, where appropriate, a process technology roadmap for implementing promising approaches for near term insertion in support of Department of Defense (DoD) systems, subsystems or component production. PHASE II: Develop applicable and feasible prototype demonstrations for the approach described, and demonstrate a degree of commercial viability. Validate the feasibility of medical 3D printing processes by demonstrating its use in the production, testing, and integration of items for DLA and its customers. Validation would include, but not be limited to, system simulations, operation in test-beds, or operation in a demonstration system. A partnership with a current or potential supplier to

DLA is highly desirable. Identify any commercial benefit or application opportunities of the innovation. Firms should develop innovative processes with the intent to readily transition to production in support of DLA and its supply chains. PHASE III: Technology transition via successful demonstration of a new process technology. This demonstration should show near-term application to one or more medical areas. This demonstration should also verify the potential for enhancement of quality, reliability, performance and/or reduction of unit cost or total ownership cost of the proposed subject. Private Sector Commercial Potential: Medical 3D printing processes and systems have wide applicability to the defense industry including air, ground, sea, and weapons technologies. There is significant interest within the private sector industries as well as civilian sector relevance. Many of the technologies and applications under this topic would be directly applicable to other DoD agencies, NASA, and any medical venue. Medical 3D printing will directly increase the availability, reduce the cost, and improve productivity of certain medical supplies.